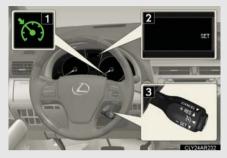
# 2-4. Using other driving systems Cruise control\*

Use cruise control to maintain a set speed without depressing the accelerator pedal.



- 1 Indicator
- 2 Display
- Cruise control switch

n Setting the vehicle speed



Press the "ON-OFF" button to activate the cruise control.

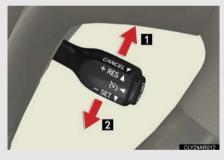
Press the button again to deactivate the cruise control.



Accelerate or decelerate to the desired speed, and push the lever down to set the speed.

"SET" will be displayed.

## n Adjusting the set speed

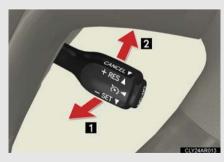


- 1 Increases the speed
- 2 Decreases the speed

Hold the lever until the desired speed setting is obtained.

Fine adjustment of the set speed can be made by lightly pushing the lever up or down and releasing it.

## n Canceling and resuming the constant speed control



- Pulling the lever towards you cancels the constant speed control
  - The speed setting is also canceled when the brakes are applied.
- 2 Pushing the lever up resumes the constant speed control.

#### n Cruise control can be set when

- 1 The shift lever is in D or "4", "5" or "6" range of S has been selected.
- 1 Vehicle speed is above 25 mph (40 km/h).

#### n Accelerating

The vehicle can be accelerated normally. After acceleration, the set speed resumes.

#### n Automatic cruise control cancelation

Cruise control will stop maintaining the vehicle speed in any of the following situations:

- 1 Actual vehicle speed falls more than 10 mph (16 km/h) below the preset vehicle speed.
  - At this time, the memorized set speed is not retained.
- 1 Actual vehicle speed is below 25 mph (40km/h).
- 1 VSC is activated.

## n If the cruise control indicator light flashes

Press the "ON-OFF" button once to deactivate the system, and then press the button again to reactivate the system.

If the cruise control speed cannot be set or if the cruise control cancels immediately after being activated, there may be a malfunction in the cruise control system. Have the vehicle inspected by your Lexus dealer.

## **A** CAUTION

#### n To avoid operating the cruise control by mistake

Switch the cruise control off using the "ON-OFF" button when not in use.

#### n Situations unsuitable for cruise control

Do not use cruise control in any of the following situations.

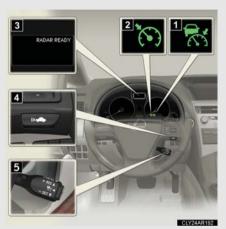
Doing so may result in loss of control and could cause an accident resulting in death or serious injury.

- 1 In heavy traffic
- 1 On roads with sharp bends
- 1 On slippery roads, such as those covered with rain, ice or snow
- 1 On winding roads
- 1 On steep hills Vehicle speed may exceed the set speed when driving down a steep hill.
- 1 When your vehicle is towing anything

#### 2-4. Using other driving systems

## Dynamic radar cruise control\*

Dynamic radar cruise control supplements conventional cruise control with a vehicle-to-vehicle distance control. In vehicle-to-vehicle distance control mode, the vehicle automatically accelerates or decelerates in order to maintain a set following distance from vehicles ahead.



- Indicator (vehicle-to-vehicle distance control mode)
- Indicator (constant speed control mode)
- 3 Display
- 4 Vehicle-to-vehicle distance switch
- 5 Cruise control switch

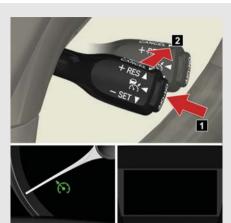
## $n \ \ \mathsf{Selecting} \ \mathsf{cruise} \ \mathsf{mode}$



Selecting vehicle-to-vehicle distance control mode:

Press the "ON-OFF" button to activate the cruise control.

Press the button again to deactivate the cruise control.



Selecting conventional constant speed control mode:

- 1 Press the "ON-OFF" button to activate the cruise control.
  - Press the button again to deactivate the cruise control.
- Switch to constant speed control mode. (Push and hold for approximately one second.)

The constant speed control mode indicator will come on.

Vehicle-to-vehicle distance control mode is always reset when the "POWER" switch is turned to ON mode.

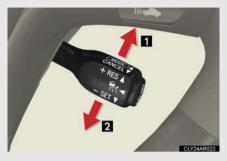
## n Driving in the selected cruise control mode



Accelerate or decelerate to the desired speed, and push the lever down to set the speed.

"SET" will be displayed.

## n Adjusting the speed setting

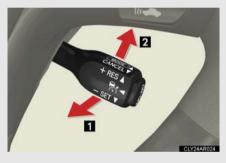


- 1 Increases the speed
- 2 Decreases the speed

Hold the lever until the desired speed setting is displayed.

Fine adjustment of the set speed can be made by lightly pushing the lever up or down and releasing it.

## n Canceling and resuming the constant speed control



- Pulling the lever toward you cancels the constant speed control.
  - The speed setting is also canceled when the brakes are applied.
- Pushing the lever up resumes the constant speed control.

## n Changing the vehicle-to-vehicle distance



Pressing the button changes the vehicle-to-vehicle distance as follows:

- 1 Long
- 2 Medium
- **Short**

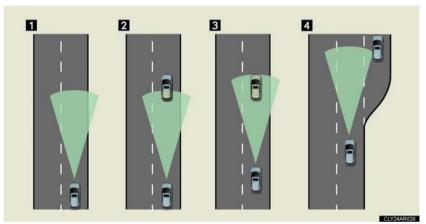
The vehicle-to-vehicle distance is set automatically to long mode when the "POWER" switch is turned to ON mode.

If a vehicle is running ahead of you, the preceding vehicle mark will be also displayed.

## Driving in vehicle-to-vehicle distance control mode

This mode employs a sensor to detect the presence of vehicles up to approximately 400 ft. (120 m) ahead and to judge the distance between your vehicle and the vehicle ahead of you.

Note that vehicle-to-vehicle distance will close in when traveling on long downhill slopes.



Example of constant speed cruising When there are no vehicles ahead

The vehicle travels at the speed set by the driver. The desired vehicle-to-vehicle distance can also be set by operating the vehicle-to-vehicle distance control.

Example of deceleration cruising When the vehicle ahead is driving slower than the set speed

When a vehicle is detected running ahead of you in the same lane, the system automatically decelerates your vehicle. When a greater reduction in vehicle speed is necessary, the system applies the brakes. A warning tone warns you when the system cannot decelerate sufficiently to prevent your vehicle from closing in on the vehicle ahead.

## **B** Example of follow-up cruising

When following a vehicle driving slower than the set speed

The system continues follow-up cruising while adjusting for changes in the speed of the vehicle ahead in order to maintain the vehicle-to-vehicle distance set by the driver.

#### 4 Example of acceleration

When there no longer are vehicles driving slower than the set speed in the lane ahead

When the vehicle ahead of you executes a lane change, the system slowly accelerates until the set speed is reached. The system then returns to constant speed cruising.

## Approach warning

When your vehicle is too close to a vehicle ahead, and sufficient automatic deceleration via the cruise control is not possible, the display will flash and a buzzer will sound to alert the driver. An example of this would be if another driver cuts in front of you while you are following a vehicle. Apply the brakes to ensure an appropriate vehicle-to-vehicle distance.

## ${ m n}\ \ { m Dynamic}\ { m radar}\ { m cruise}\ { m can}\ { m be}\ { m set}\ { m when}$

- 1 The shift lever is in D. (Recommended)
  Dynamic radar cruise control can also be set when the shift lever is in the S position and range "4", "5", or "6" has been selected.
- 1 Vehicle speed is above approximately 30 mph (50 km/h).

#### n Switching modes

The mode cannot be switched to constant speed control mode if vehicle-to-vehicle distance control mode has been used. The mode also cannot be switched from constant speed control to vehicle-to-vehicle distance control mode. Turn the system off by pressing the "ON-OFF" button, and turn it on again.

## n Accelerating

The vehicle can accelerate normally. After acceleration, the set speed resumes.

#### n Automatic cancelation of vehicle-to-vehicle distance control

Vehicle-to-vehicle distance control driving is automatically canceled in the following situations:

- 1 Actual vehicle speed falls below approximately 25 mph (40 km/h).
- 1 VSC is activated.
- 1 The sensor cannot operate correctly because it is covered in some way.
- 1 The windshield wipers are operating at high speed.
- 1. When the snow mode is set.

If vehicle-to-vehicle distance control driving is automatically canceled for any other reason, there may be a malfunction in the system. Contact your Lexus dealer.

#### n Automatic cancelation of constant speed control

The cruise control will stop maintaining the vehicle speed in the following situations:

- 1 Actual vehicle speed is more than 10 mph (16 km/h) below the set vehicle speed.
  - At this time, the memorized set speed is not retained.
- 1 Vehicle speed falls below approximately 25 mph (40 km/h).
- 1 VSC is activated.

#### n Vehicle-to-vehicle distance settings

Select a distance from the table below. Note that the distances shown correspond to a vehicle speed of 50 mph (80 km/h). Vehicle-to-vehicle distance increases/decreases in accordance with vehicle speed.

Distance options	Vehicle-to-vehicle distance
Long	Approximately 197 ft. (60 m)
Medium	Approximately 132 ft. (40 m)
Short	Approximately 98 ft. (30 m)

#### n Radar sensor and grille cover

Always keep the sensor and grille cover clean to ensure that the vehicle-to-vehicle distance control operates properly. (Some obstructions, such as snow, ice and plastic objects, cannot be detected by the obstruction sensor.)

Dynamic radar cruise control is canceled if an obstruction is detected.



- 1 Grille cover
- 2 Radar sensor

#### n Warning lights and messages for dynamic radar cruise control

Warning lights and messages are used to indicate a system malfunction or to inform the driver of the need for caution while driving.  $(\rightarrow P. 581)$ 

#### n Approach warning

In the following instances, there is a possibility that approach warning will not occur:

- 1 When the speed of the vehicle ahead matches or exceeds your vehicle speed
- 1 When the vehicle ahead is traveling at an extremely slow speed
- $1 \ \ \text{Immediately after the cruise control speed was set}$
- 1 At the instant the accelerator is applied

#### n Certification

For vehicles sold in U.S.A.

#### FCC ID: HYODNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### **FCC WARNING**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm. between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### ► For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

#### **A** CAUTION

## n Before using dynamic radar cruise control

Do not overly rely on vehicle-to-vehicle distance control.

Be aware of the set speed. If automatic deceleration/acceleration is not appropriate, adjust the vehicle speed, as well as the distance between your vehicle and vehicles ahead by applying the brakes etc.

## n To avoid inadvertent dynamic radar cruise control activation

Switch the cruise control off using the "ON-OFF" button when not in use.

## **A** CAUTION

#### n Situations unsuitable for dynamic radar cruise control

Do not use dynamic radar cruise control in any of the following situations.

Doing so may result in inappropriate speed control and could cause an accident resulting in death or serious injury.

- 1 In heavy traffic
- 1 On roads with sharp bends
- 1 On winding roads
- 1 On slippery roads, such as those covered with rain, ice and snow
- 1 On steep downhills, or where there are sudden changes between sharp up and down gradients
- 1 At entrances to expressways
- 1 When weather conditions are bad enough that they may prevent the sensors from functioning correctly (fog, snow, sandstorm, heavy rain, etc.)
- 1 Where a buzzer is heard often
- 1 When your vehicle is towing anything

## n When the sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary when any of the following types of vehicles are in front of you.

As the sensor may not be able to correctly detect these types of vehicles, the approach warning  $(\rightarrow P. 229)$  will not be activated, and an accident may result.

- 1 Vehicles that cut in suddenly
- 1 Vehicles traveling at low speeds
- 1 Vehicles that are not moving
- 1 Vehicles with small rear ends (trailers with no load on board etc.)
- 1 Motorcycles traveling in the same lane

## **A** CAUTION

## n Conditions under which the vehicle-to-vehicle distance control may not function correctly

Apply the brakes as necessary in the following conditions as the radar sensor may not be able to correctly detect vehicles ahead, and an accident may result:

- 1 When water or snow thrown up by the surrounding vehicles hinders the functioning of the radar sensor
- 1 When your vehicle is pointing upwards (caused by a heavy load in the luggage compartment etc.)
- 1 When the road curves or when the lanes are narrow
- 1 When steering wheel operation or your position in the lane is unstable
- 1 When the vehicle ahead of you decelerates suddenly

#### n To ensure the radar sensor functions correctly

Do not do the following to the sensor or grille as doing so may cause the sensor not to function correctly and could result in an accident:

- 1 Sticking or attaching anything to them
- 1 Leaving them dirty
- 1 Disassembling or subjecting them to strong shocks
- 1 Modifying or painting them
- 1 Replacing them with non-genuine parts

#### n Handling the radar sensor

Observe the following to ensure the cruise control system can function effectively:

- 1 Keep the sensor and front grille clean at all times.
  Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
- 1 Do not subject the sensor or surrounding area to a strong impact. If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area is subject to a strong impact, always have the area inspected and adjusted by your Lexus dealer.
- Do not disassemble the sensor.
- 1 Do not attach accessories or stickers to the sensor, grille or surrounding area.
- 1 Do not modify or paint the sensor and grille.

# 2-4. Using other driving systems Intuitive parking assist\*

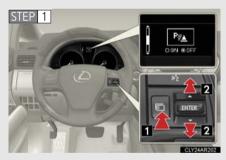
The distance to obstacles measured by the sensors is communicated via the multi-information display and a buzzer when parallel parking or maneuvering into a garage is conducted. Always check the surrounding area when using this system.

## n Types of sensors



- 1 Front corner sensors
- 2 Rear corner sensors
- Rear center sensors

## n Setting the intuitive parking assist mode



- 1 Press the menu switch.
  - The multi-information display will change modes to electronic features control mode.
- Press the "ENTER" switch upwards or downwards until the intuitive parking assist mark appears in the multiinformation display.

#### 2-4. Using other driving systems



Press the "ENTER" switch to change to "ON".

The intuitive parking assist indicator will be displayed.

Each pressing of the switch turns the intuitive parking assist on and off.

When on, the buzzer sounds to inform the driver that the system is operational.

Press the menu switch to change to the normal display.

## Display

When the sensors detect an obstacle, a graphic is shown on the multiinformation display depending on the position and distance to the obstacle.



- 1 Front corner sensor operation
- 2 Rear corner sensor operation
- **3** Rear center sensor operation

## The distance display and buzzer

When a sensor detects an obstacle, the direction of and the approximate distance to the obstacle are displayed and the buzzer sounds.

The site of the obstacle will flash (detection level 4 only).

#### n Front corner sensors

Detection level	Multi-information display	Approximate distance to obstacle	Buzzer
2		2.0 to 1.6 ft. (60 to 47.5 cm)	Medium
3	٦	1.6 to 1.2 ft. (47.5 to 35 cm)	Fast
4	<b>a</b>	1.2 ft. (35 cm) or less	Continuous

#### n Rear corner sensors

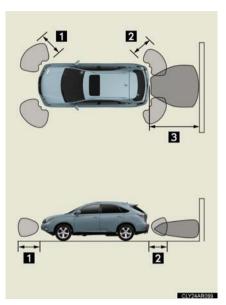
Detection level	Multi-information display	Approximate dis- tance to obstacle	Buzzer
2		1.6 to 1.2 ft. (50 to 37.5 cm)	Medium
3		1.2 to 0.8 ft. (37.5 to 25 cm)	Fast
4		0.8 ft. (25 cm) or less	Continuous

## 2-4. Using other driving systems

## n Rear center sensors

Detection level	Multi-information display	Approximate dis- tance to obstacle	Buzzer
1		4.9 to 2.0 ft. (150 to 60 cm)	Slow
2		2.0 to 1.5 ft. (60 to 45 cm)	Medium
3		1.5 to 1.2 ft. (45 to 35 cm)	Fast
4	<u> </u>	1.2 ft. (35 cm) or less	Continuous

## Detection range of the sensors



- 11 Approximately 2.0 ft. (60 cm)
- 2 Approximately 1.6 ft. (50 cm)
- Approximately 4.9 ft. (150 cm)

The diagram shows the detection range of the sensors. Note that the sensors cannot detect obstacles that are extremely close to the vehicle.

The range of the sensors may change depending on the shape of the object etc.

## n The intuitive parking assist can be operated when

- 1 Front corner sensors:
  - The "POWER" switch is in ON mode.
  - The shift lever is in a position other than P.
  - The vehicle speed is less than about 6 mph (10 km/h).
- 1 Rear corner and center sensors:
  - The "POWER" switch is in ON mode.
  - The shift lever is in R.

#### n Sensor detection information

- 1 Certain vehicle conditions and the surrounding environment may affect the ability of a sensor to correctly detect an obstacle. Particular instances where this may occur are listed below.
  - There is dirt, snow or ice on a sensor.
  - A sensor is frozen.
  - A sensor is covered in any way.
  - The vehicle is leaning considerably to one side.
  - On an extremely bumpy road, on an incline, on gravel, or on grass
  - The vicinity of the vehicle is noisy due to vehicle horns, motorcycle engines, air brakes of large vehicles, or other loud noises producing ultrasonic waves.
  - There is another vehicle equipped with parking assist sensors in the vicinity.
  - A sensor is coated with a sheet of spray or heavy rain.
  - The vehicle is equipped with a fender pole or radio antenna.
  - Towing eyelets are installed.
  - A bumper or sensor receives a strong impact.
  - The vehicle is approaching a tall or right-angled curb.
  - In harsh sunlight or intense cold weather.
  - A non-genuine Lexus suspension (lowered suspension, etc.) is installed.

In addition to the examples above, there are instances in which, because of their shapes, signs and other objects may be judged by a sensor to be closer than they are.

- 1 The shape of the obstacle may prevent a sensor from detecting it. Pay particular attention to the following obstacles:
  - Wires, fences, ropes, etc.
  - · Cotton, snow and other materials that absorb radio waves
  - · Sharply-angled objects
  - Low obstacles
  - Tall obstacles with upper sections projecting outwards in the direction of your vehicle

## ${\rm n}\,$ If a message is displayed

 $\rightarrow$ P. 575

## n Certification (Canada only)

This ISM device complies with Canadian ICES-001.

#### n Customization

Settings (e.g. buzzer volume) can be changed. (Customizable features  $\rightarrow$  P. 656)



## **A** CAUTION

#### n Caution when using the intuitive parking assist

Observe the following precautions.

Failing to do so may result in the vehicle being unable to be driven safely and possibly cause an accident.

- 1 Do not use the sensor at speeds in excess of 6 mph (10 km/h).
- 1 Do not attach any accessories within the sensor range.



#### n Notes when washing the vehicle

Do not apply intensive bursts of water or steam to the sensor area.

Doing so may result in the sensor malfunctioning.

### n Conditions possibly indicating system malfunctions

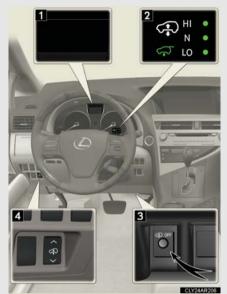
If any of the following occurs, the system may be malfunctioning due to a sensor failure etc. Have the vehicle inspected by your Lexus dealer.

- 1 The buzzer does not sound when the intuitive parking assist mode is set.
- 1 The sensor operation display flashes and the buzzer sounds even when no obstacle is detected.
- 1 An area of the sensors is hit or subjected to a strong impact.
- 1 Either bumper is hit.
- 1 The sensor operation display remains on even though no buzzer sounds.

## Electronically modulated air suspension\*

The electronically modulated air suspension allows the driver to control vehicle height in order to adjust driving conditions.

Select the desired height with the height selector switch.



- Multi-information display
- Electronically modulated air suspension indicator
- 3 Height control off button
- Height selector switch (driver's side instrument panel)



Height selector switch (luggage compartment)

## Selecting vehicle height

#### n Height modes

1 "HI" mode: For driving on bumpy roads

1.2 in. (30 mm) higher than the normal height

"HI" mode cannot be selected when vehicle speed exceeds 19 mph (30 km/h).

1 "N" mode: For ordinary driving

Normal height

1 "LO" mode: For sporty driving

Vehicle front: 0.8 in. (20 mm) lower than the normal height

Vehicle rear: 0.2 in. (5 mm) lower than the normal height

1 Luggage mode: For easy entry/exit and easy luggage loading/ unloading

1.2 in. (30 mm) lower than the normal height

## n Height selector switch

Press the height selector switch for approximately 1 second.

► Driver's side instrument panel



## 1 Higher

Pressing this switch while the vehicle is in luggage mode changes the vehicle height to that of "N" mode.

#### 2 Lower

Pressing the switch while the vehicle is in "LO" mode changes the vehicle height to that of luggage mode.

#### ▶ Luggage compartment



## 1 Higher

Pressing this switch while the vehicle is in luggage mode changes the vehicle height to that of "N" mode.

#### 2 Lower

Pressing this switch while the vehicle is in "N" mode changes the vehicle height to that of luggage mode, not "LO" mode.

## n Electronically modulated air suspension indicator



The indicator for the selected mode will come on.

The indicator will flash while the vehicle height is being changed to the height of the selected mode.

## Disabling the height control



Press the height control off button while the vehicle is stopped. A message will appear on the multi-information display, and vehicle height will be fixed in the current mode

When vehicle speed exceeds 19 mph (30 km/h), the electronically modulated air suspension is reenabled automatically.

#### n Operating conditions

After stopping the hybrid system, the vehicle will remain lowered for a maximum of 60 seconds.

- 1 Height selector switch (driver's side instrument panel)
  - While the hybrid system is operating, any vehicle height mode can be selected.
  - Luggage mode can only be selected when the shift lever is in the P position.
- 1 Height selector switch (luggage compartment)
  - When the hybrid system is operating and the shift lever is in the P position, any vehicle height other than "LO" mode can be selected.
  - When the "POWER" switch is turned off, the vehicle height can only be lowered (only the "v" side of the switch can be operated).

This switch can only be operated when the back door is open.

1 Height control off button

When the vehicle is stopped with the "POWER" switch in ON mode, vehicle height control can be disabled/re-enabled.

#### n When changing vehicle height modes

Before operating the height selector switch to raise/lower the vehicle height, ensure that there are no objects in the surrounding area that could damage the vehicle.

#### n When "N" mode is selected

During high speed driving, the vehicle height will automatically change to that of "LO" mode.

#### n When "HI" mode is selected

The vehicle height will change to that of "N" mode when vehicle speed reaches 31 mph (50 km/h) or when vehicle speed has exceeded 19 mph (30 km/h) for approximately 10 seconds. Even if vehicle speed is then reduced to under 19 mph (30 km/h), height will not return to "HI" mode.

#### n When "LO" mode is selected

The vehicle height will change to that of "N" mode when the hybrid system is restarted.

#### n When luggage mode is selected

If the vehicle begins to move while still in luggage mode, the vehicle will automatically change to "N" mode once speed exceeds 5 mph (8 km/h). Even if vehicle speed is reduced below 5 mph (8 km/h), the vehicle height will not automatically return to luggage mode.

#### n Operating sound of the air suspension

When the vehicle height is lowered, such as when entering and loading the vehicle, or when the height selector switch is operated, the sound of the compressor operating or the mode changing may be heard. This does not indicate a malfunction.

#### n Automatic leveling function

Regardless of the number of occupants and the luggage load, vehicle height in any mode is always adjusted to a fixed height by the automatic leveling function.

#### n Vehicle height mode change time

- If the height control is operated continuously to lower the vehicle, the suspension air tank may become full, causing operation of the vehicle height lowering control to become slow.
- 1 To protect the compressor, the system will only raise the vehicle for a total of 100 consecutive seconds. If it takes longer than this to reach the selected height, operation may be suspended shortly and then restart. However, it may not be possible to change the vehicle's height mode at this time.

## ${f n}$ The electronically modulated air suspension will not operate when

The vehicle height control may not be able to change modes when the vehicle runs over a high curb or other rugged surfaces where the suspension is stretched.

## **A** CAUTION

## n The electronically modulated air suspension must be disabled when

The electronically modulated air suspension must be disabled in the following situations as vehicle height may change, resulting in accidental damage:

- 1 Any of the wheels is stuck in a ditch.
- 1 It is necessary to jack up the vehicle.
- 1 It is necessary to tow the vehicle with part of it lifted.
- 1 When connecting/disconnecting a trailer

For safety, stop the hybrid system if necessary.

## **⚠** NOTICE

#### n "HI" mode

- 1 "HI" mode should be used for off-road driving. As the vehicle's center of gravity is higher in this setting, the vehicle may become unstable if an abrupt turn is made.
- 1 Do not select "HI" mode when loading cargo on the roof luggage carrier. This may result in a loss of control or vehicle rollover.

#### n Do not select "LO" mode when driving on bumpy roads.

If the underbody of the vehicle touches a rugged road surface, the vehicle may be damaged. Also be careful when driving while the vehicle is automatically returning from luggage or "LO" mode to "N" mode.

### n Automatic return to "N" mode

In the following situations, the height of the vehicle will automatically increase. Be careful in any place where overhead space is limited.

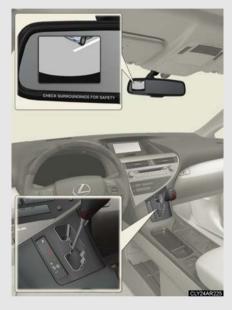
- 1 The vehicle begins to move while still in luggage mode.
- 1 The hybrid system is restarted while the vehicle is in "LO" mode.

#### n Vehicle height while parked

If the temperature changes or the vehicle is parked for a long time, the vehicle height may decrease.

## Rear view monitor system (rear view mirror-attached type)\*

The rear view monitor system assists the driver by displaying an image of the area behind the vehicle. The image is displayed in reverse on the screen. This reversed image is a similar image to the one on the inside rear view mirror.



The rear view image is displayed when the shift lever is in the R position.

- If the shift lever is shifted out of R, the screen is turned off.
- The screen remains on for approximately 5 minutes.

#### $\, n \,$ The rear view monitor system can be operated when

The "POWER" switch is in ON mode and the back door is fully closed.

#### n Switching the screen on/off



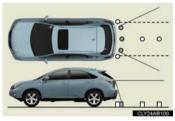
When the screen is displayed, press the "AUTO" button on the inside rear view mirror to switch the screen on/off.

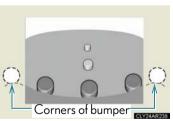
Screen on: Green indicator comes on.

Screen off: Orange indicator comes on.

The auto anti-glare inside rear view mirror will revert to the screen on each time the "POWER" switch is turned to ON mode.

#### n Displayed area





The area covered by the camera is limited. Objects that are close to either corner of the bumper or under the bumper cannot be seen on the screen.

The area displayed on the screen may vary according to vehicle orientation or road conditions.

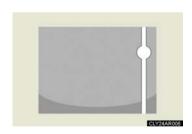
#### n Rear view monitor system camera



In the following cases, it may become difficult to see the images on the screen, even when the system is functioning correctly:

- 1 The vehicle is in a dark area, such as at night.
- 1 The temperature near the lens is extremely high or low.
- 1 Water droplets are on the camera lens or humidity is high, such as when it rains.
- 1 The camera has scratches or dirt on it
- 1 Foreign matter, such as snow or mud, adheres to the camera lens.
- 1 The sun or headlights are shining directly into the camera lens.

#### n Smear effect



If a bright light, such as sunlight reflected off the vehicle body, is picked up by the camera, a smear effect\* characteristic to the camera may occur.

\*: Smear effect — A phenomenon that occurs when a bright light is picked up by the camera; when transmitted by the camera, the light source appears to have a vertical streak above and below it.

## **A** CAUTION

- n When using the rear view monitor system, observe the following precautions to avoid an accident that could result in death or serious injuries:
  - 1 Never depend solely on the monitor system when reversing.
  - 1 Always check visually and with the mirrors to confirm your intended path is clear.
  - 1 Depicted distances between objects and flat surfaces differ from actual distances.
- n Conditions which may affect the rear view monitor system
  - 1 If the back of the vehicle has been hit, the camera's position and mounting angle may have changed. Have the vehicle inspected by your Lexus dealer.
  - 1 Rapid temperature changes, such as when hot water is poured on the vehicle in cold weather, may cause the system to function abnormally.
  - If the camera lens is dirty, it cannot transmit a clear image. Rinse with water and wipe with a soft cloth. If extremely dirty, wash with a mild cleanser and rinse.
  - 1 The displayed image may be darker and moving images may be slightly distorted when the system is cold.
  - 1 As the camera is of water proof construction, do not detach, disassemble or modify it. This may cause incorrect operation.
  - 1 Do not allow organic solvent, car wax, window cleaner or glass coating to adhere to the camera. If this happens, wipe it off as soon as possible.
  - 1 Use your own eyes to confirm the vehicle's surroundings, as the displayed image may become faint or dark, and moving images will be distorted, or not entirely visible when the outside temperature is low. When backing up, be sure to check behind and all around the vehicle with your own eyes and the vehicle's mirrors.

## **Driving assist systems**

To help enhance driving safety and performance, the following systems operate automatically in response to various driving situations. Be aware, however, that these systems are supplementary and should not be relied upon too heavily when operating the vehicle.

## n ABS (Anti-lock Brake System)

Helps to prevent wheel lock when the brakes are applied suddenly, or if the brakes are applied while driving on a slippery road surface

#### n Brake assist

Generates an increased level of braking force after the brake pedal is depressed, when the system detects a panic stop situation

## n VSC (Vehicle Stability Control)

Helps the driver to control skidding when swerving suddenly or turning on slippery road surfaces

#### n TRAC (Traction Control)

Maintains drive power and helps to prevent any of the drive wheels from spinning when the vehicle is started or accelerated on a slippery road surface

### n Hill-start assist control

 $\rightarrow$ P. 258

## n EPS (Electric Power Steering)

Employs an electric motor to reduce the amount of effort needed to turn the steering wheel

## n Active stabilizer suspension system (if equipped)

Reduces sway when cornering according to vehicle conditions such as steering wheel movement and vehicle speed, in order to maintain a stable vehicle posture

## n VDIM (Vehicle Dynamics Integrated Management)

Provides integrated control of the ABS, brake assist, TRAC, VSC, hill-start assist control, and EPS systems

Maintains vehicle stability when swerving on slippery road surfaces by controlling the brakes and hybrid system output

## n PCS (Pre-Collision System) (if equipped)

→P. 260

## When the VSC/TRAC systems are operating



If the vehicle is in danger of slipping or if any of the drive wheels spins, the slip indicator light flashes to indicate that the VSC/TRAC systems are operating.

A buzzer (intermittent) sounds to indicate that VSC is operating.

## Disabling TRAC and/or VSC systems

If the vehicle gets stuck in fresh snow or mud, the TRAC/VSC systems may reduce power from the hybrid system to the wheels. You may need to turn the system off to enable you to rock the vehicle in order to free it.

## n Turning off the TRAC system only



To turn the TRAC system off, quickly press and release the button.

A message will be shown on the multi-information display.

Press the button again to turn the system back on.

## n Turning off both TRAC and VSC systems



To turn the TRAC and VSC systems off, press and hold the button for more than 3 seconds while the vehicle is stopped.

A message will be shown on the multi-information display and VSC off indicator light will come on.

Press the button again to turn the systems back on.

## ${ m n}\,$ Sounds and vibrations caused by the ABS, VSC, TRAC and brake assist

- 1 A sound may be heard from the engine compartment when the hybrid system is started or just after the vehicle begins to move. This sound does not indicate that a malfunction has occurred in any of these systems.
- 1 Any of the following conditions may occur when the above systems are operating. None of these indicates that a malfunction has occurred.
  - · Vibrations may be felt through the vehicle body and steering.
  - A motor sound may be heard after the vehicle comes to a stop.
  - The brake pedal may pulsate slightly after the ABS is activated.
  - The brake pedal may move down slightly after the ABS is activated.

#### n EPS operation sound

When the steering wheel is operated, a motor sound (whirring sound) may be heard. This does not indicate a malfunction.

#### n Reactivation of the TRAC /VSC systems

Turning off the hybrid system after turning off the TRAC/VSC systems will automatically reactivate them.

#### n Reactivation of the TRAC system linked to vehicle speed

When only the TRAC system is turned off, the TRAC system will turn on when vehicle speed increases. However, when both TRAC and VSC systems are turned off, the systems will not turn on even when vehicle speed increases.

## ${ m n}\ \ { m Reduced}\ { m effective ness}\ { m of}\ { m the}\ { m EPS}\ { m system}$

The effectiveness of the EPS system is reduced to prevent the system from overheating when there is frequent steering input over an extended period of time. The steering wheel may feel heavy as a result. Should this occur, refrain from excessive steering input or stop the vehicle and turn the hybrid system off. The EPS system should return to normal within 10 minutes.

#### **A** CAUTION

#### n The ABS does not operate effectively when

- 1 Tires with inadequate gripping ability are used (such as excessively worn tires on a snow covered road).
- 1 The vehicle hydroplanes while driving at high speed on a wet or slick road.
- n Stopping distance when the ABS is operating will exceed that of normal conditions

The ABS is not designed to shorten the vehicle's stopping distance. Always maintain a safe distance from the vehicle in front of you in the following situations:

- 1 When driving on dirt, gravel or snow-covered roads
- When driving with tire chains
- 1 When driving over bumps in the road
- 1 When driving over roads with potholes or roads with uneven surfaces

#### n TRAC may not operate effectively when

Directional control and power may not be achievable while driving on slippery road surfaces, even if the TRAC system is operating.

Do not drive the vehicle in conditions where stability and power may be lost.

## **A** CAUTION

#### n When the VSC is activated

The slip indicator light flashes and a warning buzzer sounds. Always drive carefully. Reckless driving may cause an accident. Exercise particular care when the indicator light flashes and a buzzer sounds.

#### n When the TRAC/VSC systems are turned off

Be especially careful and drive at a speed appropriate to the road conditions. As these are the systems to ensure vehicle stability and driving force, do not turn the TRAC/VSC systems off unless necessary.

### n Replacing tires

Make sure that all tires are of the same size, brand, tread pattern and total load capacity. In addition, make sure that the tires are inflated to the recommended tire inflation pressure level.

The ABS and VSC systems will not function correctly if different tires are installed on the vehicle.

Contact your Lexus dealer for further information when replacing tires or wheels.

#### n Handling of tires and suspension

Using tires with any kind of problem or modifying the suspension will affect the driving assist systems, and may cause a system malfunction.

#### Hill-start assist control

Hill-start assist control helps to prevent the vehicle from rolling backwards when starting on an incline or slippery slope.



To engage hill-start assist control, further depress the brake pedal when the vehicle is stopped completely.

A buzzer will sound once to indicate the system is activated. The slip indicator will also start flashing.

#### n Hill-start assist control can be operated when

- 1 The shift lever is in a position other than P.
- 1 The parking brake is not applied.
- 1 The accelerator pedal is not depressed.

#### n Hill-start assist control

- 1 While hill-start assist control is operating, the brakes remain automatically applied after the driver releases the brake pedal. The stop lights and the high mounted stoplight turn on.
- 1 Hill-start assist control operates for about 2 seconds after the brake pedal is released.
- If the slip indicator does not flash and the buzzer does not sound when the brake pedal is further depressed, slightly reduce the pressure on the brake pedal (do not allow the vehicle to roll backward) and then firmly depress it again. If the system still does not operate, check if the operating conditions explained above have been met.

#### n Hill-start assist control buzzer

- 1 When hill-start assist control is activated, the buzzer will sound once.
- 1 In the following situations, hill-start assist control will be canceled and the buzzer will sound twice.
  - No attempt is made to drive the vehicle within approximately 2 seconds of releasing the brake pedal.
  - The shift lever is moved to P.
  - The parking brake is applied.
  - The brake pedal is depressed again.
  - The brake pedal has been depressed for more than approximately 3 minutes.

#### n If the slip indicator comes on

It may indicate a malfunction in the system. Contact your Lexus dealer.

## **A** CAUTION

#### n Hill-start assist control

- 1 Do not overly rely on hill-start assist control. Hill-start assist control may not operate effectively on extremely steep inclines or roads covered in ice.
- 1 Unlike the parking brake, hill-start assist control is not intended to hold the vehicle stationary for an extended period of time. Do not attempt to use hill-start assist control to hold the vehicle on an incline for an extended period of time, as doing so may lead to an accident.

## 2-4. Using other driving systems

## Pre-Collision System\*

When the radar sensor detects an unavoidable frontal collision, safety systems such as the brakes and seat belts are automatically engaged in an attempt to lessen vehicle damage.

## n Pre-collision seat belts (front seat belts only)

If the pre-collision sensor detects that a collision is unavoidable, the pre-collision system will retract the seat belt before the collision occurs. The same will happen if the driver makes an emergency braking or loses control of the vehicle.  $(\rightarrow P. 92)$ 

However, the system will not operate in the event of skidding when the TRAC/VSC systems are disabled.

#### n Pre-collision brake assist

When there is a high possibility of a frontal collision, the system applies greater braking force in relation to how strongly the brake pedal is depressed.

#### Radar sensor



The radar sensor detects vehicles or other obstacles on or near the road ahead and determines whether a collision is imminent based on the position, speed, and heading of the obstacles.

#### ${\bf n}\ \ {\sf The\ pre-collision\ system\ is\ operational\ when}$

- 1 Pre-collision seat belts linked to the radar sensor
  - Vehicle speed is greater than about 3 mph (5 km/h).
  - The speed at which your vehicle is approaching the obstacle or oncoming vehicle is greater than about 18 mph (30 km/h).
  - The front occupants are wearing a seat belt.
- 1 Pre-collision seat belts in the event of sudden braking or skidding
  - Vehicle speed is greater than about 18 mph (30 km/h).
  - The system detects sudden braking or skidding.
  - The front occupants are wearing a seat belt.
- 1 Pre-collision brake assist
  - Vehicle speed is greater than about 18 mph (30 km/h).
  - The speed at which your vehicle is approaching the obstacle or the vehicle running ahead of you is greater than about 18 mph (30 km/h).
  - The brake pedal is depressed.

#### n Conditions that may trigger the system even if there is no danger of collision

- 1 When there is an object by the roadside at the entrance to a curve
- 1 When passing an oncoming vehicle on a curve
- 1 When driving over a narrow iron bridge
- 1 When there is a metal object on the road surface
- 1 When driving on an uneven road surface
- 1 When passing an oncoming vehicle on a left-turn
- 1 When your vehicle rapidly closes on the vehicle in front

When the system is activated in the situations described above, there is also a possibility that the seat belts will retract quickly and the brakes will be applied with a force greater than normal. When the seat belt is locked in the retracted position, stop the vehicle in a safe place, release the seat belt and refasten it.

#### n Obstacles not detected

The sensor cannot detect plastic obstacles such as traffic cones. There may also be occasions when the sensor cannot detect pedestrians, animals, bicycles, motorcycles, trees, or snowdrifts.

#### ${ m n}$ When there is a malfunction in the system

Warning lights and/or warning messages will turn on or flash.  $(\rightarrow P. 566, 575)$ 

#### n Certification

#### ► For vehicles sold in U.S.A.

#### FCC ID: HYODNMWR005

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### **FCC WARNING**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### ► For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## **A** CAUTION

#### n Limitations of the pre-collision system

Do not rely on the pre-collision system. Always drive safely, taking care to observe your surroundings and checking for any obstacles or other road hazards.

#### n When the sensor may not be correctly detecting the vehicle ahead

Apply the brakes as necessary in any of the following situations:

- 1 When water or snow thrown up by the surrounding vehicles hinders the functioning of the sensor
- 1 When your vehicle is pointing upwards (caused by a heavy load in the luggage compartment etc.)
- 1 Vehicles that cut in suddenly
- 1 Vehicles with small rear ends (trailers with no load on board etc.)
- 1 Motorcycles traveling in the same lane

#### n Handling the radar sensor

Observe the following to ensure the pre-collision system can function effectively:

- 1 Keep the sensor and front grille clean at all times.
  Clean the sensor and front grille with a soft cloth so you do not mark or damage them.
- 1 Do not subject the sensor or surrounding area to a strong impact. If the sensor moves even slightly off position, the system may malfunction. If the sensor or surrounding area is subject to a strong impact, always have the area inspected and adjusted by your Lexus dealer.
- Do not disassemble the sensor.
- 1 Do not attach accessories or stickers to the sensor, grille or surrounding area.
- 1 Do not modify or paint the sensor and grille cover.